

(No Model.)

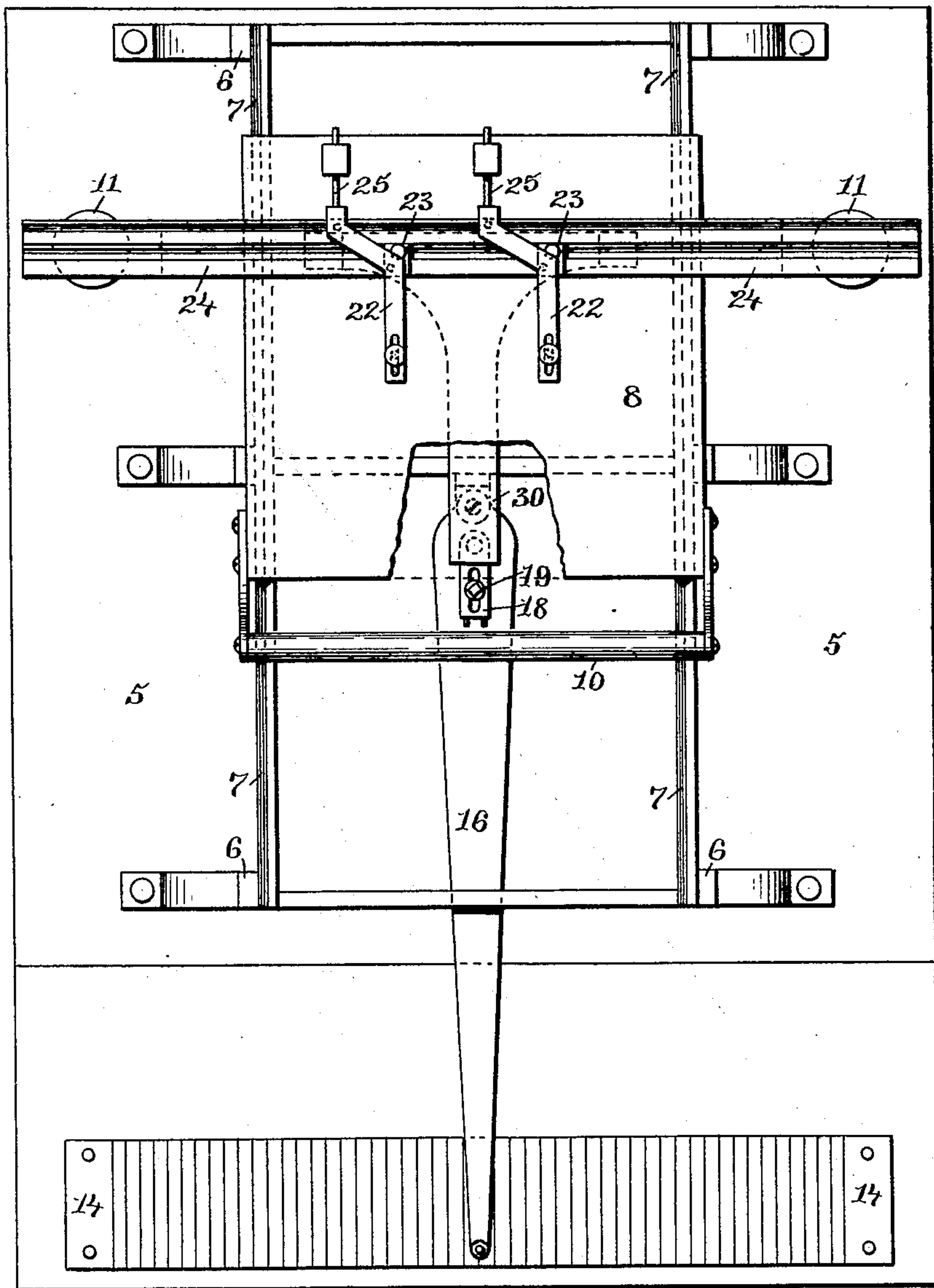
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J. HOPE.
RULING MACHINE.

No. 480,498.

Patented Aug. 9, 1892.

Fig. 1.



WITNESSES:

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INVENTOR:

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

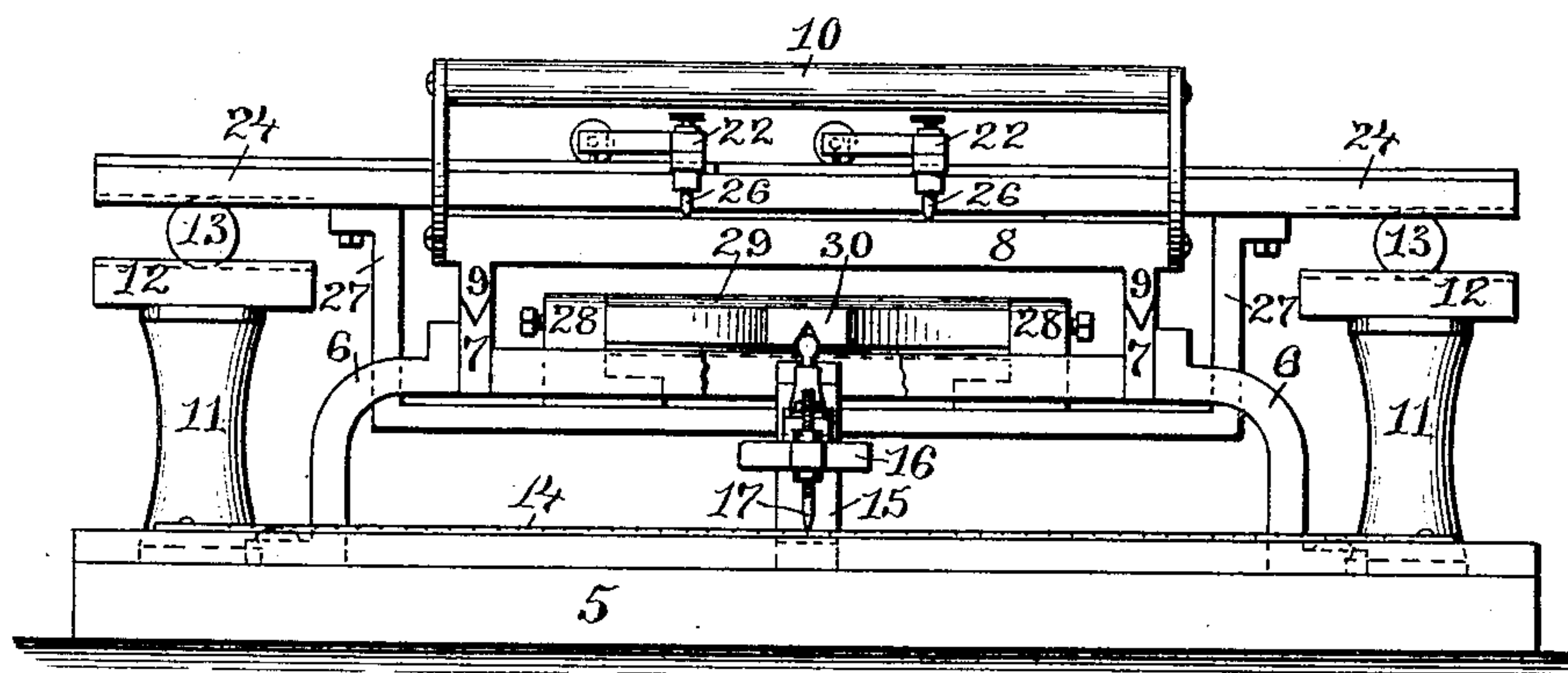


Fig. 3.

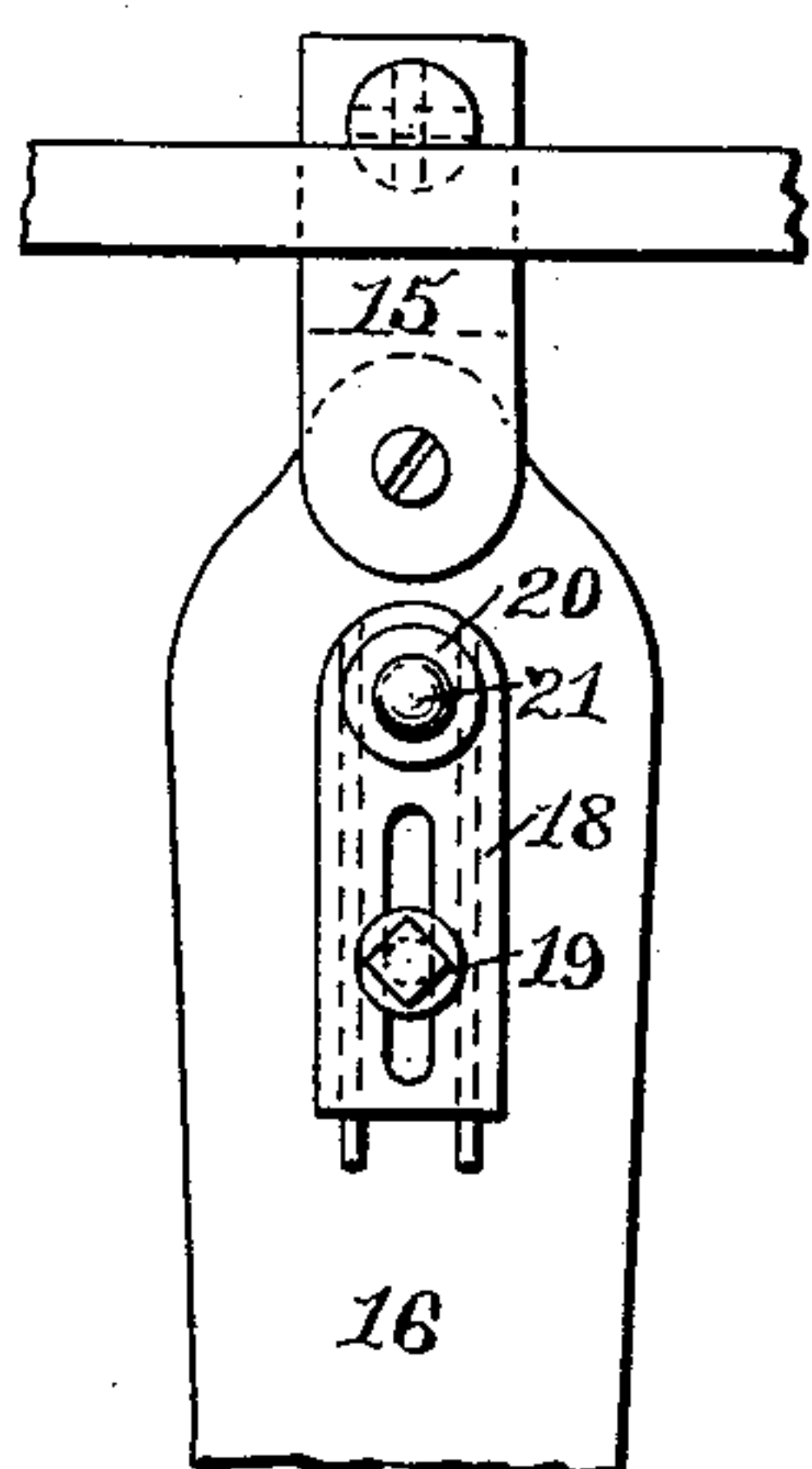
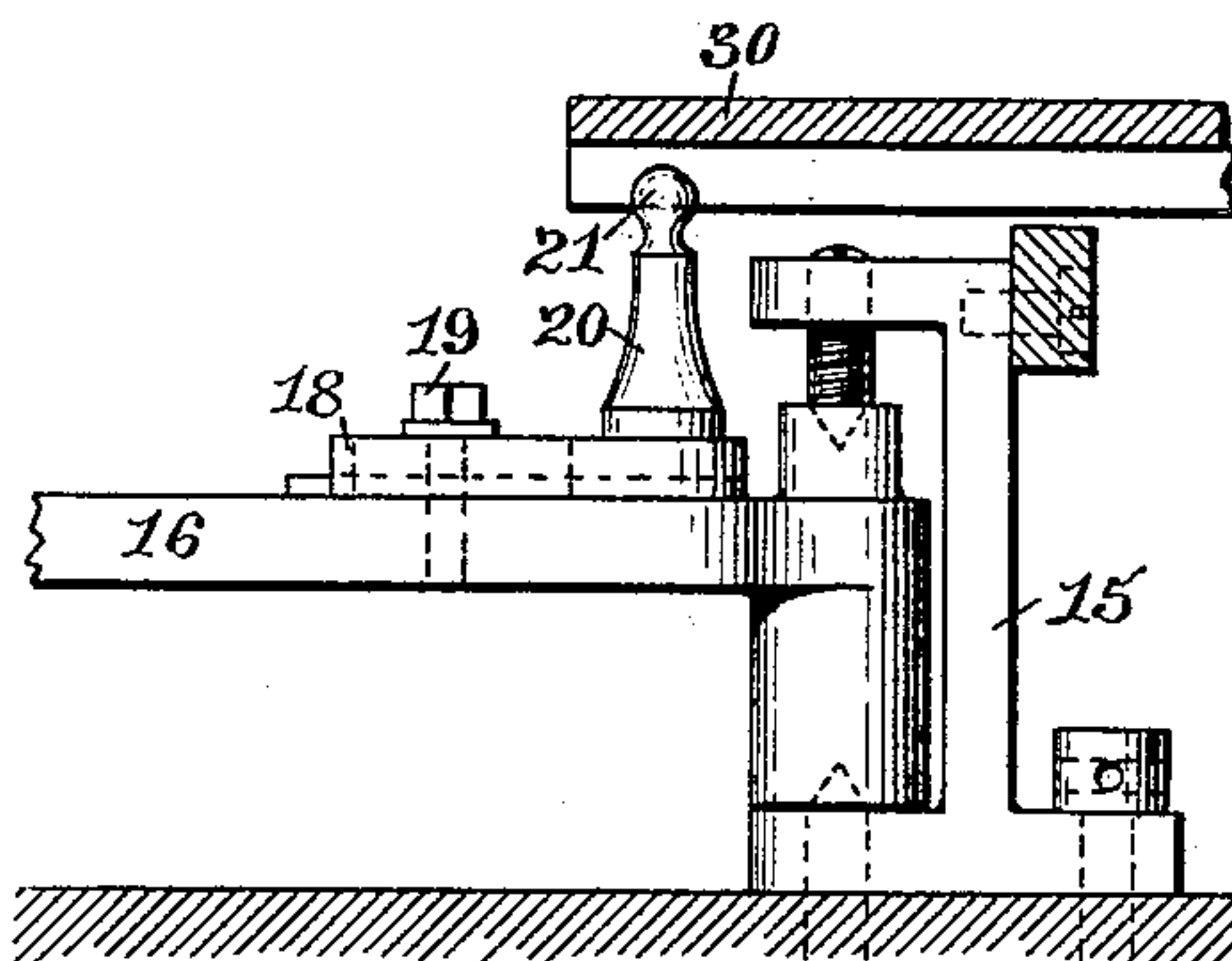


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN HOPE, OF PROVIDENCE, RHODE ISLAND.

RULING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 480,498, dated August 9, 1892.

Application filed July 31, 1891. Serial No. 401,291. (No model.)

To all whom it may concern:

Be it known that I, JOHN HOPE, of the city of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Ruling-Machines; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to improvements in machines for ruling parallel lines on metal or other surfaces.

The object of this invention is to produce a ruling-machine in which one or more engraving-points can be adjusted to rule parallel lines, the distance between which may be varied to suit the will of the operator of the machine.

To this end my invention consists in certain novel features of construction and combination of parts, which will be more fully described hereinafter, and pointed out in the claims.

Figure 1 is a plan view of the improved ruling-machine. Fig. 2 is a front view of the same. Fig. 3 is an enlarged top view of a portion of the reducing-lever and its pivotal connection. Fig. 4 is a side view of the same, showing the means by which the reduced motion is transferred to the frame carrying the tracing-points.

Similar numbers of reference designate corresponding parts throughout.

In the drawings, 5 indicates a base, on which the frame 6, provided with the V-shaped grooves 7 7, is secured. 8 is the operating-table, on which the work to be ruled is secured. This table 8 is provided with ways 9 9, which slide in the grooves 7 7, this operating-table 8 being moved by the handle 10. To the rear portion of the base 5 are secured the posts 11 11, supporting the guides 12 12, carrying the free rolls 13 13, while at the front portion of the base 5 is secured the scale-plate 14.

The bracket 15 is secured to the center of the base 5, and is also fastened at the top to one of the cross-braces of the frame 6. In this bracket 15 is pivoted the rear end of the reducing-lever 16. The forward end of the same, extending over the scale-plate 14, is provided with a pointer adapted to engage in the

recessed markings of the scale-plate. The reducing device is formed of the slotted plate 18, moving longitudinally on guides provided on the lever 16 and set at any desired point by the set-screw 19, the rear end of this plate 18 carrying the post 20, having the spherical head 21.

The arms 22 22 are secured to clamps 23 23, having heads which slide in a reversed T-shaped groove formed in the cross-beam 24. They are counterbalanced by the weighted arms 25 25 and may be connected with the lifting mechanism, by which the engraving-points 26 26 may be lifted from the work when a line is finished.

The cross-beam 24 has guides formed in the lower surfaces of its ends, which rest on the free rollers 13 13, and carries the pendent frame 27, which supports the brackets 28 28, in which is pivoted the cross-shaft 29 of the forwardly-extending tongue 30. This tongue has a V-shaped groove cut in its lower surface, which engages with the spherical head 21 on the post 20.

My improved ruling-machine is adapted to be more easily adjusted than those heretofore constructed, and it is obvious that any number of engraving-points may be used, and therefore the work can be more quickly done.

The operation of the improved ruling-machine is as follows: When it is determined what number of lines per inch it is desired to rule, the slotted plate 18 is adjusted on the arm 16, so that the distance from the center of the post 20 to the pivot of the arm 16 will be in proportion to the length of the arm 16. If the arm 16 is twenty inches in length and it is desired to engrave two hundred lines per inch, the plate 18 is set so that the center of the post 20 shall be one-tenth of one inch from the pivot of the arm 16. Thus if the scale on the plate 14 is marked in inches the movement of the pointer 17 over one space will move the cross-beam 24 one two-hundredth of an inch, and will thus carry all the engraving-points an equal distance. The table 8, carrying the work to be ruled, is moved under the engraving-points 26 26. When the lines are finished, the pointer 17 is again moved an inch and the engraving-points are again moved an equal distance and another line engraved, and so on until the work is finished.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a line-engraving machine, the combination, with a frame carrying engraving-tools and a tongue pivoted in such frame provided at its forward under surface with a V-shaped slot, of a lever pivoted at the rear end and provided at the free end with a pointer and carrying an adjustable plate supporting a post adapted to engage with the pivoted tongue of the tool-carriage, as described.

2. The combination, with the base 5, supporting the frame 6, having the V-shaped slides 7 7, adapted to receive the ways 9 9 of the table 8, of the posts 11 11, supporting the rolls 13 13, carrying the cross-beam 24, to which the engraving-tool arms 22 22 are secured, and means for moving said beam transversely, as described.

3. The combination, with the cross-beam 24, supported on the rolls 13 13 and carrying the pendent frame 27, on which is pivoted the forwardly-extending tongue 30, having a V-shaped groove cut in its under surface, of the lever 16, pivoted in the bracket 15 and provided with the slotted plate 18, secured by the screw 19 and carrying the post 20, having the head 21, adapted to engage with the V-shaped groove of the tongue 30, as described.

4. In a line-engraving machine, as herein described, the combination, with the transversely-movable beam 24, having a longitudinal reversed T-shaped slot, of the arms 22 22, secured to clamps movable in said slot and carrying engraving-points, as described.

JOHN HOPE.

Witnesses:

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